

CLAIMS

We claim:

1. A rotational light emitting display apparatus comprising:
 - a support;
 - a plurality of light emitting elements affixed to said support and arranged in one or more generally parallel columns thereon;
 - a microcontroller, said microcontroller controlling the illumination of said plurality of light emitting elements;
 - a power source, said power source providing electrical power to the display apparatus; and
 - a means for sensing the rotational movement and position of said support about a center of rotation of said support.
2. The rotational light emitting display apparatus of claim 1, further comprising:
 - an image map of a predetermined image; and
 - said microcontroller illuminating said plurality of light emitting elements in accordance with said image map to display a coherent image that is visible by humans.
3. The rotational light emitting display apparatus of claim 2, wherein said image map is of a predetermined animated image.
4. The rotational light emitting display apparatus of claim 3, wherein the animated image is of a vehicle instrument selected from the group consisting of a speedometer, accelerometer and power meter.
5. The rotational light emitting display apparatus of claim 2, wherein said microcontroller controls the illumination of said plurality of light emitting elements to steady the image in the angular direction of said support about the center of rotation of said support; and wherein said microcontroller controls

the illumination of said plurality of light emitting elements to scale the image to fit in an annulus centered about the center of rotation of said support.

6. The rotational light emitting display apparatus of claim 5, wherein scaling of the image is a function of rotational frequency of said support.
7. The rotational light emitting display apparatus of claim 1, wherein said means for sensing the rotational movement of said support about a center of rotation of said support comprises a magnetic source and a magnetic-field sensor.
8. The rotational light emitting display apparatus of claim 7, further comprising a coil, wherein said power source is derived from electrical current generated in the coil when passed by the magnetic source.
9. The rotational light emitting display apparatus of claim 1, wherein said plurality of light emitting elements are light emitting diodes.
10. The rotational light emitting display apparatus of claim 1, wherein at least two of said plurality light emitting elements emit a different color light.
11. A rotational light emitting display apparatus comprising:
 - at least one support attached to a rotating object at a radial distance from the center of rotation of the rotating object, said support attached to the rotating object so as to having the same center of rotation of the rotating object;
 - a plurality of light emitting elements affixed to said at least one support and arranged in one or more generally parallel rows perpendicular to the angular rotation of the rotating object;
 - an image map of a predetermined animated image;

a microcontroller, said microcontroller controlling the illumination of said plurality of light emitting elements in accordance with said image map to display a coherent image that is visible by humans of the image stored in said image map about the center of rotation of said support and to steady the image in the angular direction of rotation of said at least one support about the center of rotation of said at least one support; and wherein said microcontroller controls the illumination of said plurality of light emitting elements to scale the image to fit in an annulus centered about the center of rotation of said at least one support;

a power source, said power source providing electrical power to the display apparatus; and

a means for sensing the rotational movement of said support about the center of rotation thereof.

12. The rotational light emitting display apparatus of claim 11, wherein the animated image is of a vehicle instrument selected from the group consisting of a speedometer, accelerometer and power meter.
13. The rotational light emitting display apparatus of claim 11, wherein scaling of the image is a function of rotational frequency of said at least one support.
14. The rotational light emitting display apparatus of claim 11, wherein said means for sensing the rotational movement of said support about a center of rotation of said support comprises a magnetic source and a magnetic-field sensor.
15. The rotational light emitting display apparatus of claim 14, further comprising a coil, wherein said power source is derived from electrical current generated in the coil when passed by the magnetic source.

16. The rotational light emitting display apparatus of claim 11, wherein said plurality of light emitting elements are light emitting diodes.
17. The rotational light emitting display apparatus of claim 11, wherein at least two of said plurality light emitting elements emit a different color light.
18. A rotational light emitting display apparatus comprising:
 - at least one support attached to a vehicle wheel at a radial distance from the center of rotation of the wheel, said support attached to the wheel so as to having the same center of rotation thereof;
 - a plurality of light emitting elements affixed to said at least one support and arranged in one or more generally parallel rows perpendicular to the angular rotation of the wheel;
 - an image map of a predetermined animated image;
 - a microcontroller, said microcontroller controlling the illumination of said plurality of light emitting elements in accordance with said image map to display a coherent image that is visible by humans of the image stored in said image map about the center of rotation of said support and to steady the image in the angular direction of rotation of said at least one support about the center of rotation of said at least one support; and wherein said microcontroller controls the illumination of said plurality of light emitting elements to scale the image to fit in an annulus centered about the center of rotation of said at least one support ;
 - a power source, said power source providing electrical power to the display apparatus; and
 - a means for sensing the rotational movement of said support about the center of rotation thereof.

19. The rotational light emitting display apparatus of claim 18, wherein the animated image is of a vehicle instrument selected from the group consisting of a speedometer, accelerometer and power meter.
20. The rotational light emitting display apparatus of claim 18, wherein said plurality of light emitting elements are light emitting diodes.